

CONTRIBUTIONS FROM THE GRAY HERBARIUM OF
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(Continued from page 303)

VIII. NOTES ON HIERACIUM

HIERACIUM **Robinsonii** (Zahn), stat. nov. *H. smolandicum*, subsp. *Robinsonii* Zahn in Engler, Pflanzenr. iv²⁸⁰. 468 (1921).

Although Zahn placed with doubt the plant collected by Robinson & Schrenk in southeastern Newfoundland under the Scandinavian *H. smolandicum* Almq. it differs in so many strong characters that I think it wiser to consider it an endemic eastern American species. So far as I have yet found there is no evidence that any of the European members of the complex Section *Vulgata* are indigenous with us. We have a very diverse lot of introduced and weedy plants of the section. *H. Robinsonii*, however, is indigenous along chiefly slaty river-banks in Newfoundland, eastern Quebec, Cape Breton, northern Maine and northern New Hampshire. From the Scandinavian *H. smolandicum* our native plant differs in its thick and firm leaves glabrous beneath or merely short-pilose along the midrib, the cauline leaves twice as many, mostly 4–10, and more gradually decreasing in size to the summit (in *H. smolandicum* the thin leaves copiously long-villous, the cauline 3–6 and confined chiefly to lower half of stem), and the phyllaries caudate-attenuate (in *H. smolandicum* blunt or merely acuminate).

It is at present quite impossible to identify with any certainty the diverse series of introductions belonging in the macro-species *Hieracium vulgatum*. In his inclusive *H. vulgatum* Zahn recognizes 144 so-called “subspecies” and many varieties, the subspecies sometimes grouped under such unilluminating heads as “*a. Folia latiora*” opposed to “*b. Folia angustiora*” or “*a. Squamae dorso vel margine parcefloccosae*” opposed to “*b. Squamae efloccosae atrae nitentes*”, the latter series containing “subspecies” with “*Involucra . . . interdum parcefloccosa*” (subsp. no. 131) or “*squamis . . . parcefloccosis*” (subsp. no. 132), the former series with “subspecies” with “*squamis . . . subefloccosis*”. In other cases series of 20 or 30 “subspecies” are enumerated without even these hair-

splitting differentiations. Surely, without a clearer understanding of and a saner guide to the European variations of this heteromorphic group, it is better for the present to pass all the introduced plants of § *Vulgata*, with basal leaves narrowed to the petiole as *H. vulgatum*.

Returning to *Hieracium Robinsonii*, Zahn's very full description of the *Robinson & Schrenk* plant is accompanied by the following synonymy: "An *H. molle* Pursh Fl. Am. sept. II, (1816) 503? *H. vulgatum* Gray Syn. Fl. N.-Am. I. 2 (1884) 429". As to the plants of the Synoptical Flora designated by Gray (on p. 424, not 429) as *H. vulgatum* from "Labrador, *Kohlmeister*, &c. Canada, on shores of the Lower St. Lawrence (*Macoun*), there perhaps introduced", they are of two very different species. The Labrador element is *H. groenlandicum* Arv.-Touv., which is native in outer Labrador, northern Newfoundland, and Anticosti, as well as Greenland, while the Macoun material seen by Gray was a sheet of Macoun's (August, 1883) with two species, the data reading: "Shores of the St Lawrence from Point Levis to Anticosti. Locality. Point Levis (Large specimen), River de Brig, Anticosti". The plant from Levis is the ubiquitous weedy species which abounds in the region of Quebec city, *H. vulgatum* Fries; the Anticosti specimen is good *H. groenlandicum*. As for *H. molle* sensu Pursh, not Jacquin, that was evidently *H. groenlandicum* also; incidentally the date of Pursh was 1814, not 1816 as given by Zahn.

The type and only specimen of *H. Robinsonii* seen by Zahn came from the southeastern side of Newfoundland, more than 550 miles southeast of the mouth of the St. Lawrence River¹. Nevertheless Zahn, with the Germanic inaccuracy regarding American geography to which we have become accustomed, concocted the citation: "Am unteren Lorenzstrom: Cataracts of Rocky River in Newfoundland". The following are the stations for *H. Robinsonii* (often distributed as *H. vulgatum*) represented in the Gray Herbarium and the Herbarium of the New England Botanical Club.

NEWFOUNDLAND: crevices of rocks, infrequent, South Arm River, Holyrood, and Cataracts of Rocky River, *Robinson &*

¹ Equivalent in distance to placing Berlin in England, on the western coast of Norway, on the Gulf of Riga, on the Dneiper River or on the Mediterranean, or equivalent in distance to placing Vienna on the Seine or in Belgium or on Sardinia.

Schrenk, no. 227 (ISOTYPE); ledges and gravel along Waterford River between Waterford Bridge and St. John's, *Fernald & Wiegand*, no. 6439. QUEBEC: Saguenay River, Roberval, July 18, 1892, *G. G. Kennedy*; ledges along River Ste. Anne des Monts, Gaspé County, August, 1905, *Collins & Fernald*; ledges below Fraser Falls, Rivière du Loup, July 11 and 13, 1904, *Collins & Fernald*; rocks by Lower Fall, Rivière du Loup, *A. S. Pease*, no. 2477. NOVA SCOTIA: gravel in river-bottoms, Big Intervale, Cape Breton Island, *Macoun*, no. 16,699. MAINE: argillaceous ledges by Meduxnakeag River, Monticello, *Fernald & Long*, no. 14,923; abundant in crevices of calcareous ledges and on cliffs by Mattawamkeag River, at foot of the Island, Island Falls, September 8, 1897, *Fernald*; cliffs (calcareous slate) along Piscataquis River, Sangerville, June 26, 1895, *Fernald*, no. 236; July 15 and 29, 1900, *W. N. Park*; rocky soil about ledges, Carrabassett River, North Anson, July 4, 1885, *J. F. Collins*. NEW HAMPSHIRE: ledges, Gorge of Diamond River, Dartmouth College Grant, Coös County, *Pease*, no. 10,513.

It may be serviceable to others to have my key-characters separating the 4 species of § *Vulgata* which I can recognize in eastern America:

- a. Stem truly scapiform or subscapiform, naked or with 1 or 2 cauline leaves borne near base; lowest leaves with rounded or cordate bases.....*H. murorum* L.
(locally adventive from Europe).
- a. Stem with 2-12 leaves scattered to near inflorescence; lower leaves attenuate to petioles....*b.*
- b. Involucre and pedicels stipitate-glandular, with no or but few glandless villi overtopping the glands; inflorescence paniculate-corymbose, with arched- or divergent-ascending branches and pedicels; heads few—30 or more. *H. vulgatum* Fries
(All-inclusive series of introductions).
- b. Involucre and pedicels glandless or only very minutely glandular, copiously long-pilose or villous with glandless hairs; inflorescence strict, with 1-10(-20) heads on erect peduncles or branches; indigenous.
Larger (lower) leaves 1-5 cm. broad, membranaceous, villous-ciliate, their petioles and the midribs of lower surfaces copiously villous; heads (1-)4-20; phyllaries blunt or acuminate.....*H. groenlandicum* Arv.-Touv.
Larger (lower) leaves 0.7-2 cm. broad, coriaceous, eciliate or nearly so, their petioles and the midribs of lower surfaces only sparsely pilose or glabrescent; heads 1-5(-8); phyllaries caudate-attenuate.....*H. Robinsonii*.

The stations known to me for *H. Robinsonii* are given above. Those of *H. groenlandicum* (outside Greenland) are as follows:

LABRADOR: Rama, *A. Stecker*, no. 347; open hillside, September Harbor, lat. 56° 31', long. 61° 10', *Bishop*, no. 608. NEWFOUNDLAND: thickets on slaty hills back of Little Quirpon, *Fernald &*

Gilbert, no. 29,268; thicket by Big Brook, Straits of Belle Isle, *Fernald & Long*, no. 29,267. ANTICOSTI ISLAND, QUEBEC: talus calcaire et barchois, Rivière au Saumon, *Victorin et al.*, no. 21,303; sur les platières élevées et sèches, R. au Saumon, *Victorin & Rolland*, no. 27,583; R. de Brig [c ?], *Macoun*, no. 18, in part; R. la Loutre, *Victorin & Rolland*, nos. 25,356–25, 358; à plusieurs milles en amont, R. Jupiter, *Victorin & Rolland*, no. 25,360; sur les platières sèches, R. du Brick, *Victorin & Rolland*, no. 27,579; sur la rocaille calcaire près de l'embouchure, R. à la Patate, *Victorin et al.*, no. 21,310; talus herbeux, R. Galiote, *Victorin & Rolland*, no. 25,359; sur les talus des gorges, R. Chicotte, *Victorin & Rolland*, no. 27,587; éboulis argilo-calcaires, R. Ferrée, *Victorin & Rolland*, no. 25,355; sur les talus d'alluvion, R. Belle, *Victorin & Rolland*, no. 27,591.

H. CANADENSE Michx., var. **fasciculatum** (Pursh), stat. nov. *H. fasciculatum* Pursh, Fl. Am. Sept. ii. 504 (1814).

Var. *fasciculatum* is the common plant which passes in the Northern States and southern Canada as typical *Hieracium canadense*. It is, however, not the extreme of the species which Michaux had, from Lake Mistassini, and well described as *H. canadense* in his Fl. Bor.-Am. ii. 86 (1803). Michaux clearly described, and the beautiful photograph before me of his TYPE shows, the northern extreme, mostly low, with few large and remote thin leaves and open paniculate-corymbose inflorescence of few long-peduncled heads with blackish involucre of oblong-lanceolate phyllaries. Typical *H. canadense* occurs from southern Labrador to northern British Columbia, south to Newfoundland (where nearly ubiquitous), Cape Breton, Prince Edward Island, northern Maine, northern New Hampshire, Ontario, northern Michigan, northeastern Iowa, Saskatchewan, Montana, Idaho and Oregon. It is the plant which in the West passes as *H. columbianum* Rydb. or *H. canadense*, var. *columbianum* (Rydb.) St. John. It was also described as *H. macrophyllum* Pursh, Fl. Am. Sept. ii. 504 (1814), Pursh noting the distinctive characters, "panicula divaricato-corymbosa, pedunculis elongatis nudis", which is quite similar to Michaux's "corymbo paucifloro: pedunculis longis". Pursh also added the significant comment: "leaves the largest of the genus".

Var. *fasciculatum* is the common plant which occurs from southern Quebec to southern Ontario and Minnesota, south to Nova Scotia, New England, northern New Jersey, Pennsylvania, Ohio, Indiana, Illinois and Iowa. It was described by Pursh

“caule erecto folioso . . . ramis paniculae divaricatis brevibus, pedicellis subfasciculatis pubescentibus”. It was also described by Pursh (p. 503) from western New York and Canada as *H. virgatum*.

Torrey & Gray understood typical *Hieracium canadense* and its var. *fasciculatum* but, without knowing Michaux's type, they reversed the two, calling var. *fasciculatum* typical *H. canadense* and treating the northern typical *H. canadense* (*H. macrophyllum* Pursh) as *H. canadense*, var. *latifolium* Torr. & Gr. Fl. N. Am. ii. 476 (1843). As I understand the species it falls into three well defined varieties as follows:

- a. Involucre 8–13 mm. high; upper internodes of stem and branches without or with only a few scattered setae.
 Involucre dark fuscous to blackish; median phyllaries oblong-lanceolate, 1.5–2 mm. broad, the inner ones fuscous throughout or with broad dark central band; stems 1.5–10 dm. high; leaves (5–)8–20(–30), mostly remote, thin or membranaceous to firm, oblong or narrowly ovate, lanceolate or oblanceolate; heads 1–many, on arched-ascending peduncles mostly 2–10 cm. long in an open or divaricately corymbiform panicle. . . . *H. canadense* (typical).
 Involucre pale olive; median phyllaries narrowly lance-attenuate, 1–2 mm. broad at base, the inner ones pale throughout or merely with slender greenish midrib and green tip; stems mostly 0.5–1.5 m. high, stiffly erect; leaves 25–50 or more, often subapproximate, lanceolate to narrowly oblong-ovate, thick to coriaceous; heads many, often subvirgately fascicled or subumbellately corymbose, on stiff peduncles mostly 0.5–4 cm. long.
 Var. *fasciculatum*.
- a. Involucres 5–10 mm. high; panicle more or less virgate-fastigiate to umbelliform, with slender and erect elongate peduncles; stem slender, 0.5–9 dm. high, its middle and upper internodes and the peduncles copiously villous-hirsute with hairs 1.5–3 mm. long; leaves as in typical var. or the lower more strongly ciliate. Var. *hirtirameum*.

H. CANADENSE Michx. Fl. Bor.-Am. ii. 86 (1803). *H. macrophyllum* Pursh, Fl. Am. Sept. ii. 504 (1814). *H. canadense*, var. *latifolium* Torr. & Gray, Fl. N. Am. ii. 476 (1843). *H. auratum* sensu Fries, Epic. Gen. Hierac. 124 (1862) not Fries, Symb. Hist. Hierac. 181 (1848). *H. columbianum* Rydb. in Bull. Torr. Bot. Cl. xxviii. 513 (1901). *H. canadense columbianum*, as subsp. (Rydb.) Piper in Piper & Beattie, Fl. Se. Wash. 351 (1914). *H. canadense*, var. *macrophyllum* (Pursh) Farwell in Rep. Mich. Acad. Sci. xx. 195 (1918). *H. laevigatum* subsp. *canadense* (Michx.) Zahn in Engler, Pflanzenr. iv²⁸⁰. 891 (1922). *H. canadense*, var. *columbianum* (Rydb.) St. John, Fl. Se. Wash. and Adj. Idaho, 459 (1937).—Range given above.

Var. *FASCICULATUM* (Pursh) Fernald, supra. *H. fasciculatum* Pursh, Fl. Am. Sept. ii. 504 (1814). *H. virgatum* Pursh, l. c. 503 (1814). *H. Kalmii* sensu Bigel. Fl. Bost. ed. 2: 288 (1824); sensu Torr. Compend. 280 (1826); sensu Spreng. Syst. iii. 646 (1826); not L. Sp. Pl. ii. 804 (1753).—Range given above.

Var. *HIRTIRAMEUM* Fernald in RHODORA, xvii. 19 (1915).—Damp to dry ledges, shores, cliffs and clearings, Newfoundland to Wisconsin, south to New Brunswick, New England and northeastern Pennsylvania.

As originally pointed out Var. *hirtirameum* is more inclined than other variations of the species to distortions due to aphids or fungi. Some altered individuals show secondary involucre only 2 mm. high.

As to *Hieracium Kalmii*, it was said by Linnaeus to have been collected in Pennsylvania by Kalm. The type, of which two different photographs are before me, looks like a meagre specimen of *H. canadense*, var. *fasciculatum*, for which Bigelow, Torrey and Sprengl mistook it. Its involucre, however, is less imbricated, with the phyllaries obtuse; and after studying the specimen Gray wrote: “. . . Scales of involucre narrowly linear, . . . in a single series . . . Ovaries . . . glabrous, not striate . . . Pappus a single series of fragile strongly denticulate-scabrous bristles . . . ; we are confident that his plant is not of North American origin”.—Gray in Torr. & Gray, l. c. 479 (1843).

In describing *Hieracium canadense* Michaux compared it with the European *H. sabaudum* L., a species which superficially suggests typical *H. canadense*, but from which our native plant differs consistently in many characters. Since the European species is appearing locally as a weed with us it may here be recorded.

H. SABAUDUM L. Differing from *H. canadense* as follows: Hairs of lower internodes and leaf-surfaces bulbous-based; panicle occupying one third to two thirds the height of the plant, loosely paniculate, not umbelliform; involucre glabrous or with few nonglandular hairs (young involucre of *H. canadense* commonly somewhat glandular); phyllaries round-tipped, the lowest spreading (in *H. canadense* at least the inner phyllaries attenuate to tip, all appressed).—Sp. Pl. ii. 804 (1753).—Old World species becoming naturalized with us. I have examined the following American material. MASSACHUSETTS: vacant grassy lot, Memorial Drive near Cottage Farm Bridge, Cambridge, October 6,

1928, *S. F. Blake*, no. 10,789, the plant now abundant and found elsewhere in Cambridge; abundant in vacant lot off Pleasant Street, Brookline, September 29, 1913, *F. F. Forbes*.

H. VENOSUM L., var. *NUDICAULE* (Michx.) Farwell in Mich. Acad. Sci. Rep. xx. 194 (1918). *H. Gronovii*, var. α . *nudicaule* Michx. Fl. Bor.-Am. ii. 87 (1803).

In making this transfer Dr. Farwell did not clearly differentiate between true *Hieracium venosum* and the variety. From the start the two Linnean species, *H. venosum* L. Sp. Pl. ii. 800 and *H. Gronovii* L. l. c. 802 (1753), were hopelessly mixed. As noted by Gray in Torrey & Gray, Fl. N. Am. 478 (1843) and as is apparent from the Linnean diagnoses his description of *H. venosum*, drawn directly from Gronovius, calls for a thick-stemmed plant: "HIERACIUM foliis cuneiformibus hirtis, scapo nudo crassissimo erecto"; while the very detailed description of *H. Gronovii*, "Folia radicalia obovata, obtusa, integerrima, tenuitate membranacea, supra pilis raris adspersa, subtus subviolacea. Caulis pedalis, filiformis, uno alterove folio lanceolato, paniculatus, panicula inaequali", vividly describes the plant which Willdenow, Sp. Pl. iii. 1570 (1804), Torrey & Gray and all later authors have called *H. venosum*. There is no type of *H. venosum* in the Linnean Herbarium but the citations by Linnaeus of the two Virginian plants, *Hieracium . . . lapathi venis sanguineis inscriptis foliis* of Plukenet and *H. . . . foliis punctis & venis sanguineis notatis* of Banister, and the descriptive name *H. venosum* can mean only the plant we know under that name. Willdenow and after him Torrey & Gray so used the name and, in view of the sad mixup at the start, this seems the right interpretation. As to *H. Gronovii*, as badly mixed, Gray, who studied the specimens involved, selected the plant of Gronovius cited by Linnaeus to typify that confused name.

Hieracium venosum may have strictly rosulate leaves and a naked scape or 1-6 cauline leaves, the latter series of selected specimens being *H. venosum*, var. β . *subcaulescens* Torr. & Gray. Experience in the field shows that it has no definite range and that individuals with and without cauline leaves are frequently associated. Taxonomically it seems wholly unimportant. So, it seems to me, is var. *Blombergii* Zahn in Engler, Pflanzenr. iv²⁸⁰. 1117 (1922). Its only character, the presence of abundant glands on the involucre, is altogether too evasive. Just where one

stops in estimating whether the involucre may be "tenuiter subglandulosa" (Zahn's characterization of typical *H. venosum*) and "densissime glandulosa" I do not know. Var. *Blombergii* was based on a single collection from Massachusetts. Of the 105 specimens from that state before me 6 show no appreciable glands on the involucre, 89 have them obvious but possible to count (from 1 to 6 or 8 on a phyllary) and could be described by Zahn's "tenuiter subglandulosa", and 10 specimens have enough glands to pass as "densissime glandulosa". I give up.

There seems to be, however, a very real geographic variation within *Hieracium venosum*. All material before me from New England (with the exception of a few sheets from Cape Cod, Martha's Vineyard and Nantucket) to southern Ontario, south into Pennsylvania and Kentucky, has the upper surfaces of the later and abundant basal leaves quite glabrous, although the smaller basal ones may have setose upper surfaces. Much of the material from Georgia to New Jersey and a few specimens from southeastern Massachusetts have the upper surfaces remotely setose with thick-based hairs. Thus, of the relatively small but significant representation before me 14 sheets (including all from south of lat. 38°) from Virginia have setose upper surfaces, only 2 (both from north of lat. 38° 30') have them glabrous; 8 (all but 2 from the outer Piedmont or the Coastal Plain) from North Carolina have setose upper surfaces, 7 (all from the mountains) not; 3 from South Carolina setose, 0 glabrous; 5 from Georgia setose, 1 (from Pine Mt.) glabrous; and all from Missouri setose. The setose upper surface, as opposed to the esetose one, seems to mark a real geographic variation. In view of the fact that all our collections from the regions best known to Banister (and through him Plukenet) and to Clayton (and through him Gronovius) have the setose upper surfaces ("foliis . . . hirtis—Gronovius; "Folia tenuitate membranacea, supra pilis raris adspersa"—Linnaeus), I am treating the common plant of southeastern Virginia as typical of the species as recognized by Willdenow and by Torrey & Gray and later authors.

Michaux did not even recognize *Hieracium venosum*. He lumped the two very different plants, one with elongate subcylindric inflorescences, thick green foliage and stoutish stems, the other with open corymbiform panicle, often purple-marked

membranous foliage and slender stems as *H. Gronovii*. Under that inclusive name he had two varieties:

Var. α . *nudicaule*: caule subunifoliato: panicula subfastigiata.

— β . *foliosum*: caule parce folioso: panicula oblonga.

HAB. β . in Virginia et Carolina.

— α . in Canada et Pennsylvania.

The photograph of Michaux's material which I took in 1903 shows the two plants: his *H. Gronovii*, α . *nudicaule*, the common northern extreme of *H. venosum* with leaves glabrous above. The label bears the annotation "État de N. York et Pensylvanie" and the significant note: "calyce pedunculisq. hispidis", which places it perilously near "var. *Blombergii*"!, so that the latter name must lapse with those who think the more glandular specimens worth sorting out. *H. Gronovii*, var. *foliosum* Michx. is very characteristic *H. Gronovii* as now generally interpreted, the plant with 2–10 well developed and scattered cauline leaves. The occasional more leafy individuals, with 20–30 cauline leaves seem not worth separating, at least, they are not var. *foliosum*.

The highly plastic series of plants known as *Hieracium marianum* Willd. seems to be a group of more or less perpetuating hybrids with *H. venosum* as one parent, *H. Gronovii* often, or northward *H. scabrum* Michx., as the other. The resultant maze is very complex. It is our nearest approach to the baffling series of apomicts and mixed progeny with which the European students of *Hieracium* are familiar.

THE WILD CHERRY OF THE CARRIZO SANDS OF TEXAS

V. L. CORY

MY very good friend, Mr. H. B. Parks, from time to time has called to my attention the fact that the wild cherry of the sand hills along the Bexar-Wilson County line is different from the other described species of cherries, and to substantiate his statements at various times he has sent me material of this plant for study. Some of the fruiting material thus received was sent to a leading botanist for determination, and by him it was referred to *Prunus virens* Woot. & Standl., the evergreen cherry, which, in Texas, is found only in the mountains of the Trans-